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Children's Preferences for Different Types of Picture Books

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November, 2013

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Abstract

Picture books are a recourse for children to gain basic world knowledge, practice cognitive thinking, and build language skills (Strasser & Seplocah, 2007). This study examined elements from children, parents or picture books that might have a potential influence over children's preferences towards picture books. There are four research predictions for the study: 1) Children would prefer the picture books with the major character of matching gender to themselves; 2) Children would prefer the picture books' minimal suggested reading age matches their own; 3) Parental influence, which is frequency of joint reading and their knowledge of picture book, would positively correlate with children's average preference scores; 4) Younger children would prefer picture books with higher visual stimulation level than older readers. A set of 100 books were analyzed with characteristics that might influence children's reading preferences. These factors included gender of the major character, visual stimulation level, and minimal suggested reading age. From an online survey,142 valid responses from parents were collected. These information included the basic demographics about their children, as well as their children's preference scores of this set of books. This study did not support any of the predictions. However, the data suggested that parents in general rated that girls preferred picture books more so than boys.

Introduction

The definition of a picture book by Sipe (1998) is the synergy of illustrations and text. Picture books represent an important resource for children to gain general knowledge, practice cognitive skills, and build vocabulary skill (Strasser & Seplocah, 2007). This unique form of art literacy that combines the verbal and the visual text engages readers in active learning and entertaining (Wolfenbarger, 2007).

Examining children's preferences for picture books has been ongoing for decades. Educators keep seeking a closer look into children's reading preferences in order to provide more suitable reading material (Agosto, 1999). My project would mainly focus on understanding what kind of picture books appeal to children by conducting an online survey and coding picture books.

Literature Review and Theoretical Background

Children's Factors. Factors such as a child's gender and age might influence the favorability that the child holds towards picture books (Langerman, 1990; Kragler, 2000; Whitehurst& Lonigan, 1998). However, not all the researchers agree with each other. The controversial topic of whether gender differences in picture book preferences exist has not yet been settled. While some people argued that boys and girls innately prefer different types of reading materials, more pointed out that such preferences were heavily influenced by social pressure (Dutro, 2002). On the other hand, study showed that at an early age (3-4), children already present different interests in reading materials (Amsden, 1960). However, this study would examine how age influence children's reading preferences on a larger scale of participants with a wider age range.

Gender. Educators have been aware of how social expectation have influenced on how boys and girls behavior in confirmation of their gender stereotypes (Langerman, 1990; Childress, 1985). In her 2002 study, Dutro observed how 26 fifth graders explored the gender boundary during picture book selecting section. Not only did she find that different type of pictures were more popular between boys and girls (girls tended to pick from American Girls and babysitter sections while boys mostly picked sport books), but also that boys displayed more anxiety than girls when exploring gender boundaries. This finding led to her assumption that boys in general might exhibit less flexibility in terms of picture book preferences. As Dutro noted, these children's book selection behavior was performed openly in front of a whole classroom, therefore, there was a certain amount of social pressure present when students were picking which picture book to read, and thus their selection might not equal their actual preferences. Her discussion even pointed out that some boys told her secretly that they would actually glad to read a book about a girl although they chose differently earlier. Other studies avoided the possible confounding influence from peer pressure by applying different research methods. Boyatzis and Eades study (1999) revealed a group of kindergartners' preferences of pictures as well as their artist production matched with their gender stereotype. During the experiment, 49 children finished their drawings and then selected colored sheets and pictures. Based on their selection, the gender –typicality score were assigned by a group of graduate lab assistants. These scores showed that children "conformed closely to gender stereotypes in their choices" (p. 634). However, in this study, we would approach the children's preference by surveying their parents rather than examining the children's selections. Therefore, the data for this aspect might result in different patterns than other studies.

Age. Many studies have suggested that readers from different age ranges have indicated preferences for particular types of books. Some previous studies focused on emergent literacy, which is how children interact with picture books prior to developing the ability to read and write (Whitehurst & Lonigan, 1998). Children could develop emergent literacy skills as early as infancy. These studies suggested that emergent readers might need special reading material to facilitate their reading ability. Jalongo, Dragich, Conrad and Zhange (2002) have discussed how wordless picture books could be used to accommodate emergent literacy. With the special needs of emergent readers, wordless books facilitate developing book handling skill, encouraging visual stimulation application and enabling children with limited language proficiency. Therefore, this group of younger readers might express preferences for picture books differently from more mature readers.

Besides the emergent readers with special needs for picture books, age still has an influence on children's preferences for more sophisticated readers. Rudisill's (1952) study on children's preferences for color and other qualities in pictures included children from kindergarten through sixth-grade. This study indicated that there was a greater conformity of opinion associated with increase in age. The younger readers, kindergartens, expressed more flexibility in terms of preferred pictures. Yet, this study did not verify any significant difference in preference of children from different grades. However, as Coles and Hall (1999) cited in their book, *Children's Reading Choices*, children from different age groups did exhibit different reading ranges. In their study, twelve-year-old readers actually showed a wider range of types of books read than ten-year-olds.

Parental Influence. There is evidence of the importance of parental involvement in children's intelligential and mental development (Eccles & Harold, 1993; Harris, 19928). In their

1997 study, Hoover-Dempsey and Sander's claimed that parental involvement was critical to children's development of skills and knowledge, as well as personal confidence of succeeding. Parents' education level, literacy activities and reading attitude were strongly associated with children's reading interest and language skills (Lyytinen, Laasko & Poikkeus, 1998). Also, in 2010, Baker, Scher and Mackler's study on reading motivation found that parents who had a more positive attitude towards reading had children who were more interested in reading and viewed reading more favorably. Other studies (Reese, 1995; Stephenson, Parrila, Georgious, &Kirby, 2008; Weigel, Martin,&Bennett, 2006) further indicated how home literacy could be an indicator of children's language and print skills.

Frequency of Joint Reading. Previous studies demonstrated the importance of mother-child reading habit on children's education (Eccles & Harold, 1993). Ortiz, Stowe and Arnold's (2001) study evaluated the influence of joint reading activity on children's interest in shared reading. Several weeks after the study, the children from experiment group, who practiced joint-reading for two weeks, still reported an increase in reading interest. Kank (2009) illustrated the importance of mother-child joint book reading on children's recollection. This suggested that the frequency of joint reading might lead to a better memory of certain (types) books. There has not yet been any published study on parental influence on the books choice. There is much evidence that parental involvement plays an essential role in developing children's reading skills and interest. Bus, Van, and Pellegrini's (1995) investigation found that preschooler-parent joint reading is linked to language skills and reading achievements. Also, the increased level of reading ability is linked with book preference; Purve and Beach's study (1972) demonstrated that as children's reading abilities matured, their genre preferences moved beyond fantasy type of

picture books to realistic books. This suggested that higher joint reading frequency might lead to different preferences on picture books.

In addition, Kaderavek and Justice's (2002) investigation on shared storybook reading practice addressed two potential pitfalls during the practice, which were improper parental input and failure to recognize the cultural influence that children bring to shared reading. While stating these pitfalls, they pointed out that child engagement during joint reading was heavily influenced by parents' reading style. In addition, this study has demonstrated a certain parents' reading style(interactive and guiding) was linked with higher joint reading frequency, thus, it is fair to infer that each child from individual family with various reading habits would exhibits different level of reading interests.

Familiarity with Picture Books. Familiarity with reading material is associated with high achievement in school setting (De Graaf, De Graaf, & Kraaykamp, 2000). Children's book selection is closely tied to their familiarity with those books. Robinson, Larsen, Haupt and Mohlman's (1997) study on emergent readers' book selection behavior concerning 40 representative picture books showed that children, especially kindergartners, selected familiar books more often than unfamiliar picture books. According to Mohr's (2002) investigation on children's reading choice rationale, most children picked picture books that they either heard about it or it was recommended by their peers. Picture book familiarity based on such input as peer influence has enhanced the possibility for children to choose these books to read. It suggested that education providers' knowledge of books correlates with children's reading achievement. McCutchen, Harry, Cox, Sidman, Covil and Cunningham (2002) explored relationships among teachers' knowledge of literature and phonology, their idea of reading instruction, their classroom practice and their students' reading achievement. The study showed

that teacher's knowledge about reading content positively correlated with children's reading ability. The suggestion that teachers' knowledge of reading material might influence children's reading abilities leads our prediction that parents' knowledge of picture books could influence children's reading preferences as well.

Book Factor. Children's preferences for picture books also depend on the characteristics of the books themselves. Numerous studies have been done to understand what kind of picture books appeal to children, pre-schoolers mostly. Factors like the amount of color and richness of illustrations, and the level of difficult might influence whether readers like specific picture books.

Richness of Illustrations. Children have their own preferences for certain features of an illustration (Bloomer, 1960). Rudisill's (1951) investigation of children's preferences for various qualities of illustrations found an average preference for more realistic art drawing than conventional one. In addition, Bou's (1950) report on Puerto Rican children from the second, fourth, and the sixth grades choosing illustrations with a range of reality concluded that these children consistently preferred the more realistic illustrations. It seemed that the most lifelike pictures were the most favored ones among preschoolers and primary students. Sloan's (1972) study compared 240 second and fifth graders' preferences for four kinds of illustrations -- photographic, realistic, cartoon and stylistic – with and without learning the story. The result showed that children preferred photographs the most regardless of their gender, age or the presence of a narrative behind the pictures. Myatt and Carter's (1979) study differed from other studies by pointing out the exception of kindergartners. Although their conclusion demonstrated a consistent preference for photographs among children up to fifth-grade, kindergartners had a wider variety of preferences than other age groups. This exception can be explained by the inconsistency nature of kindergartens, which was present at Rudistill's (1951) results as well.

The study's data on children's voting on different illustration showed that kindergartens had almost equal amounts of voting on all kinds of illustrations, as the elder kids exhibited a stronger conformity. Ramsey's (1982) study on children's rank on different art style supported that when being asked to pick one book to read, children preferred photographs and cartoons than representational and expressionistic styles.

Amount of Color. Professional educators highly value the color element in picture books for children (Rudisill, 1952). There is a wide range in the number of colors applied in picture books. There are solo chromatic picture books, such as *Blueberries for Sal* (McCloskey, 2010) as well excessively colored ones, such as *Babies Can't Eat Kimchee!*(Patz, 2006). Color, as a major component of visual stimulation, plays a role in children's preferences. Rudisill's (1952) findings demonstrated that most children, from kindergarten through sixth-grade, preferred colored pictures over uncolored ones if the two pictures are identical in all other respects. The study indicated that children used the existence of color as an indication of valuing illustrations. However, it did not investigate the issue of whether the amount of color would make a difference in children's picture valuation process. Amsden's (1960) study comparing illustrations with different amounts of color and different shades of color among children aged 3 to 5 years old found that illustrations with more colors were favored over illustrations with fewer colors.

Difficulty Level. In 1959, Olson's theory of child development, which is the idea that children are "seeking behavior, self-selection, and pacing" (p.402), was proposed. Ever since then, educators have applied his theory to children's book self-selection practice, because it posited that a healthy child will seek outside stimulation level that match his/her maturity level. Furthermore, it implies that children will read materials that match their reading level. However, this theory was not verified in later studies. Kragler's (2000) analysis of three types of readers'

book selection behavior pointed out that children usually fail to pick picture books that matched their reading level. The study showed that while above-average readers tended to read books that were too easy for them, below-average readers sought books that were too challenging for them, and average readers had mixed preferences. A similar study that was conducted by Anderson, Higgins and Wurster (1985) suggested differently. Their report on self-selecting of books by high, average, and low reading achievers from fourth and sixth graders suggested that poor readers did not select suitable books for reading but more sophisticated readers did pick proper reading material. Also the study reported a similar range of reading interests in genre for readers with different reading abilities (which, in this study, included fantasy, fairy tale, informational, biography and adventure).

Previous studies have applied several measurements to determine how difficult a book is. Kragler's (2009) analysis of three types of readers reported that the children mentioned using length of the word, size of print, and length of the book to judge books' difficulty level. Mohr (2006) asked children to assess the difficulty level of books they had selected earlier. The result showed that many children rated their books as hard to read, yet this did not affect their selections.

Gender of Major Character. Since the 1960s, researchers have become aware of the prevalence gender stereotypes that exist in children's reading material (Peterson & Lach, 1990). Langerman and Timm's (1998) study even suggested that gender stereotypes appeared more frequently than other stereotypes within picture books. Even children themselves were well aware of whether a book is a "girls' book" or a "boys' book." Dutro's (2012) study on fifth graders' book selection described how children consciously talked about which books are girls' books or boys' books.

Boyatzis and Eades' study (1999) mentioned that children were more likely to select and produce drawings consistent with their gender stereotypes. In 1983, Kropp and Halverson found similar results. When comparing a typically masculine themed story or feminine themed story, thirty-two preschoolers' preferences were significantly different in their gender differences. Girls from the study preferred stories with a female character or feminine activities and least preferred stories with a male character and masculine activities, and the reverse for boys. However, for such studies, how children considered a book a girls' book or boys' book remained unclear.

Experimental Overview

This study assesses the discussed factors' influence on children' preferences for picture books. A set of 100 picture books was coded in terms of their difficulty level, the visual stimulation level and the gender of main character. Besides, a preferences survey was posted online to collect children's and parents' preferences on these books. More specific predictions for this study were made:

1) Children would prefer the picture books with major character with match gender.

2) Children would prefer the picture books' difficulty level matches their age.

3) Parental influence, which is frequency of joint reading and their knowledge of picture book, would positively correlate with children's average preferences

4) Younger children would prefer picture books with larger amount of color and higher illustration richness level than older readers.

Method

Participants. An online survey has been sent to the parents who previously had participated in studies in Developmental Language and Cognitive Lab (DLCL). It has also been

posted on the DLCL webpage and Facebook link. The data collection has been completed, and there were 178 responses through July 2013.

To determine the valid responses, the following procedure was conducted. Nine responses were eliminated because they did not complete the basic demographic information or did not answer any question for any picture book in the survey. With the 169 responses left, 102 of them checked all one hundred books from the survey. The critical point of determining the reliable survey takers are depends on the number of the books they skipped. The range of the number books these 67 people skipped during the survey is 1 to 98 (M=28.37). According to the distribution chart of number of skipped picture books, the point of average segregated the distribution line. Therefore, among those who skipped any books, the ones skipped more than average were dropped, because they skipped too many books to be considered. This process left 142 valid responses.

Among these 142 responses, the number of books parents checked ranges from 6 to 65 (M=34.4, SD=10.70). Three responses were below two standard deviations from average and five responses were above two standard deviations from the average. All eight responses were kept due to the fact that the latter five responses stand for above average knowledge of these picture books and the former three responses were kept to balance out the other five.

At the end, 142 valid responses remained. The ratio of the gender of the target child was 65 boys to 77 girls. Their ages varied from 9 months to 18 years old (M=5.77, SD=1.46). The reading ability of this sample of children varied from 1 (“my child does not yet know any letters”) to 5 (“my child can read a book on his/her own”) (M=3.51, SD=1.46).

Materials.

Survey. The survey employed a set of one hundred picture books and asked parents to rate how much they and one of their children like each one of them. For the purpose of this study, parents selected one target child as the subject of this survey. At the beginning of the survey, parents were asked to provide basic information, which included the gender of parent, the number of children he/she has, the gender of target child, and that child's reading level.

After finishing demographic information, parent may start rating this set of picture books. For each book, parents were present to the cover of each picture book and select on a rating scale for the following four questions: (1) "Are you familiar with this book?" (2) "How much do you like this book?"; (3) "How much does your child like this book?"; and (4) "How often do you and your child read this book?" Parents could skip or quit at any point of the survey. If a parent responded "no" to the first question, yet answered any of the rest question, it would be considered as that parent misunderstood or clicked wrong choice for the first question. Thus, all that parent's answers for that picture book remained. However, if a parent responded "yes" to the first question, but did not answer any of the other questions, it was considered that the parent was not familiar with that picture book. For how much parent and that target child like each picture book, the participant can rate their preferences in a scale of 1("I really do not like this book") to 5("I love it! It is one of my favorite!"). For the question (4), parents can rate their frequency of reading a book from 1 ("we never read this book") to 5 ("we have read it many times"). The following picture is a snapshot of the one slide of the survey.

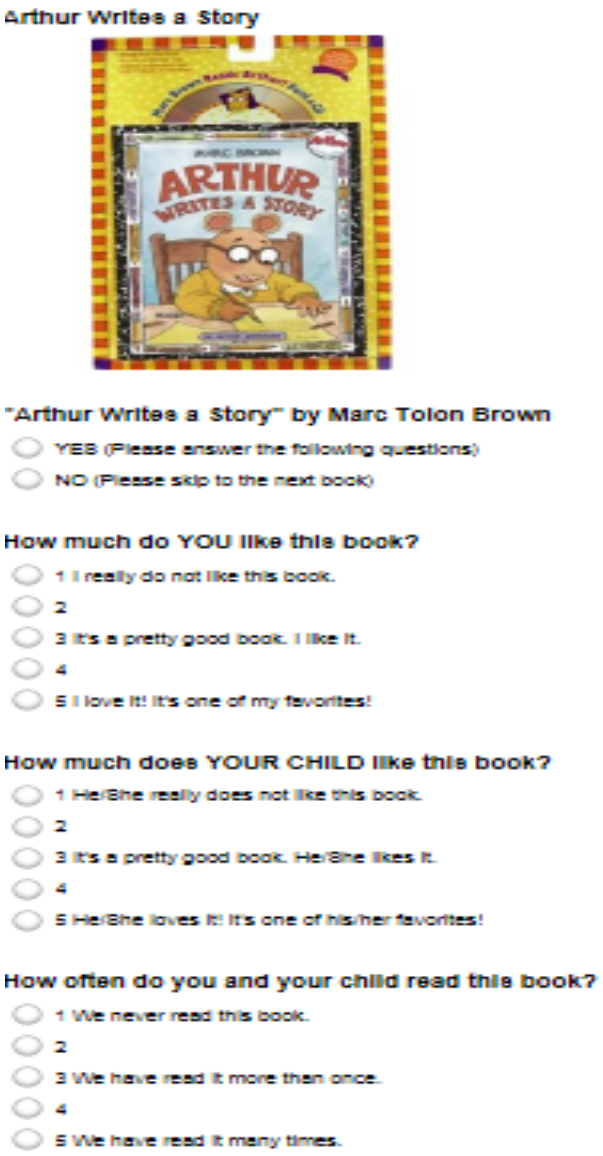

Figure 1: A snapshot from one page of the suvey

Picture Books. A set of one hundred picture books was selected to be included in the survey (see appendix A). To ensure this set of books is popular enough to obtain enough ratings, two steps of procedure was conducted. First, Forty-seven of the books were selected through a survey conducted at COSI, asking parents about the picture books their children like or have read recently. Another 43 picture books were selected from the DLC Lab. Second, in order to confirm the popularity of the one hundred books, the lab checked the Amazon rankings of the 100-book

sample and discovered that the 53 books added later, on average, had higher rankings than the ones identified from the survey.

Besides popularity, it was deemed necessary that this set of books be fairly representative in terms of book genre, time period and author. These books include both narrative (n=89) and non-narrative (n=11) books. Also these picture books range in their publication year. Fifty-five picture books were published before 1990; 22 were published after 2000 and 23 were published within between. In this set of books, only one picture book per author was selected, expect for Dr. Seuss, who had three narrative books.

After the preliminary data analysis, only 69 picture books remained in the survey. Based on the ratings from the 142 valid responses, only these picture books got recognized by at least 10% of participants.

Coding of the Books. To categorize these picture books, a system of codes was used to identify and define different traits of picture books. In order to settle questions like how many colors constitute a considerably "colorful" illustration, the set of picture books was coded by five members from the DLC lab. The coding manual has been amended twice and agreed on by all the members. Each book was coded along with the four factors discussed earlier: visual stimulation, gender of the major character and the minimal suggested reading age.

Visual Stimulation. Two factors, the amount of color and the richness of the illustrations, were applied to determine the level of visual stimulation level of a picture book. These two factors were coded separately. Amount of color coding category is used to estimate how colorful an illustration is by counting the number of different colors in a certain illustration. All picture books were coded into four codes (1, 2, 3, and 4) based on average number of color for each illustration. Code 1 was designated for picture books whose number of color per illustration is 1

to 5; code 2 is for 6 to 10; code 3 is for 11 to 15; code 4 is for 16 or more. The number of picture books under each code is, respectively, 16, 17, 24, and 10.

The Richness of Illustration focuses on several qualities within illustration. This code determines the extent of richness by considering the lifelikeness and the amount of detail in the majority of illustrations within a certain picture book. The amount of color was not taken into consideration while making the decision for richness, since color has its own code. There are two levels (1, 2) of richness of the illustrations. The code 1(n=35) represents higher richness level of the illustrations. It targets the illustrations that depict the major theme but lack of environmental details. The following picture is an example of such. Code 2(n=34) targets the illustrations that have richer background details, a sense of depth and delicate shadowing. Paintings and photographs usually attribute to code 2. For the books that contain mixed styles of illustrations, the codes were determined by the larger number of illustrations with consistent style.

The code of visual stimulation level equals to the product of the amount of color and the richness of the illustration. It creates six levels of visual stimulation level (1, 2, 3, 4, 6, and 8).

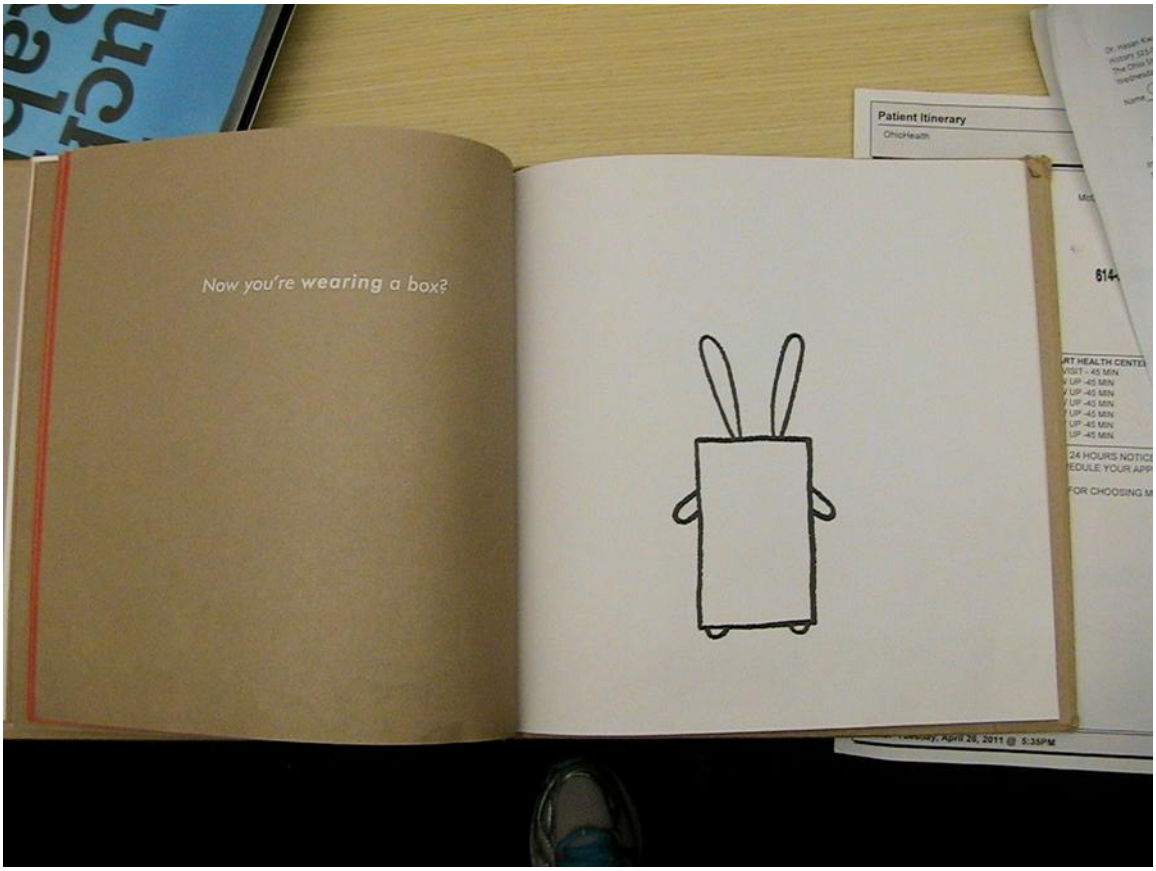

Figure 2: An illustration of low richness level and level 1 for the amount of color

Figure 3: An illustration of high richness level and level 4 for the amount of color

Gender of the Major Character. Gender classifies the gender identity of the major character. Three codes under this category are Male (n=30), Female (n=11), and Unspecified (n=28), which should be coded respectively according to the gender of the main character. Unspecified identifies the books of a protagonist with ambiguous gender identity, which often happened with books with animal character, for example, *Goodnight Gorilla* (Rathmann,1994). It also applied for books that contain multiple major characters.

Suggested Minimal Reading Age. The difficulty level of the book is defined by the age group of the audience the book is designed for. For each picture book, the publisher estimated a minimal reading age or age range. For books that given an age range, the minimal age for suggested readers is taken as the minimal suggested reading age. The estimation should be based on the difficulty of the book respective to children's reading ability in terms of their age. The publisher's estimation of the book's difficulty was assumed to be a rather objective assessment concerning the average children's reading skills.

Codes	Number of Levels	The Definition for Each Level	Sample Size
Gender of the Major Character	3	Male	30
		Female	11
		Unspecific	28
Visual Stimulation level	6	1=Less than 5 different colors* Poor Richness	14
		2=Less than 5 different colors*High richness; 6 to 10 different colors*Poor richness	11
		3=11 to 15 different colors*Poor Richness	10

		4=16 or more different colors*Poor Richness; 6 to 10 different colors*High richness	10
		6= 11 to 15 different colors* High Richness	5
		8= 16 or more different colors*High Richness	9
Suggested Minimal Reading Age	3	1= minimal suggested reading age from 0 to 2	23
		2= minimal suggested reading age from 3 to 4	33
		3= minimal suggested reading age from 5 to 7	13

Table 1: All picture book codes and their descriptions

Results

Gender Matching. A 2*3 ANOVA was conducted with the gender of the major character as a between-book independent variable (Male, Female, Unspecific), and boys' and girls' rating scores as a within-book dependent variable. The results showed a main effect of reader's gender ($F(1, 66) = 5.87$), $P = .018$) on parent- reported readers' response. They reported that girls overall have higher ratings on picture books than boys. However, there was no main effect of the gender of the major character ($F(2, 66) = 1.29$, n.s.), nor interaction between the gender of the major character and the gender of the reader ($F(2, 66) = 0.18$, n.s.). The gender of the major character did not affect how much children like the book, and did not affect whether girls or boys like the book more. In general, the result did not support the hypothesis that children would prefer the picture books whose gender of the major character would match their own. However, it showed that parents reported girls prefer picture books more than boys.

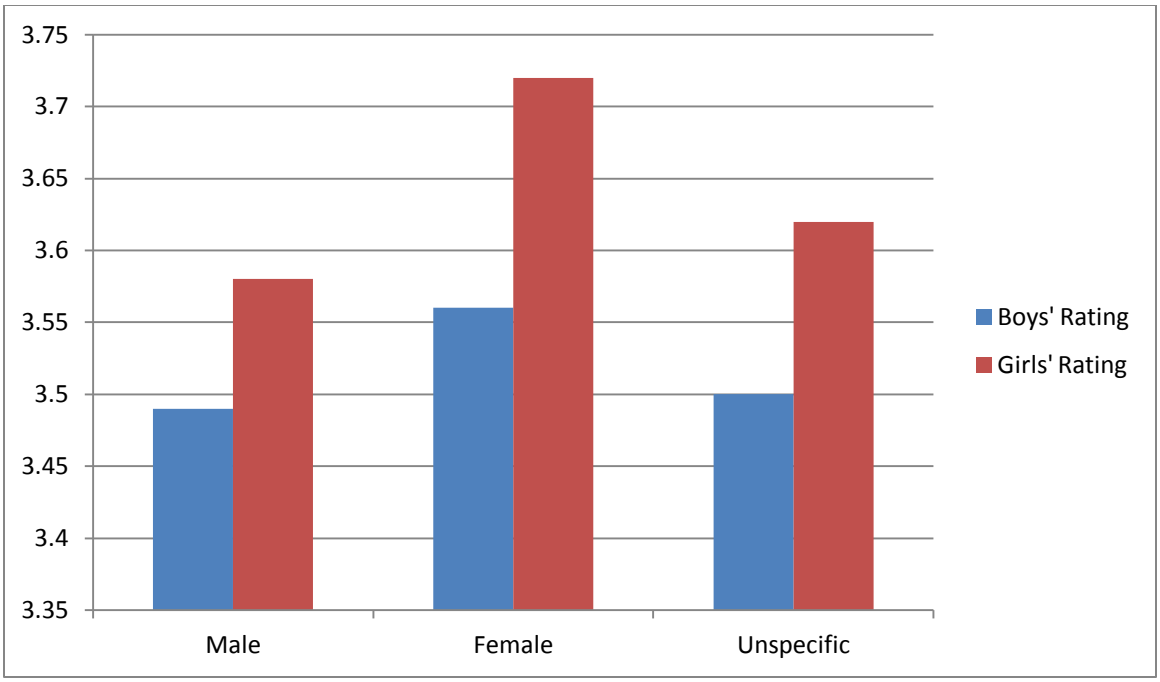

Figure 4: Average boys' and girls' ratings towards picture books with major characters of different gender type

Visual Stimulation. In order to compare the parent-reported ratings of different age groups on books with different visual stimulation level, the two age groups were divided by the age of 6. A younger group of 75 and a older group of 67 were created. A 6*2 ANOVA was conducted, with visual stimulation level as the between-book variable and ratings from different age group as the within-book dependent variable (younger readers vs. older readers). The statistical results showed no main effect of age group ($F(1, 63) = 0.48$, n,s.), nor of the visual stimulation level of the illustration ($F(5,63) = 2.15$, n.s.). This was no interaction between the stimulation level and age group ($F(5, 63) = 1.28$, n.s.). The visual stimulation level of the picture books did not affect children's preferences, regardless their age. The age group of the children did not have an effect on their overall rating scores. As seen in the Figure 5, the visual stimulation level of the illustration had no effect in two age groups' ratings score. In general, the

data showed that children would not necessarily prefer picture books with more visually stimulating illustration.

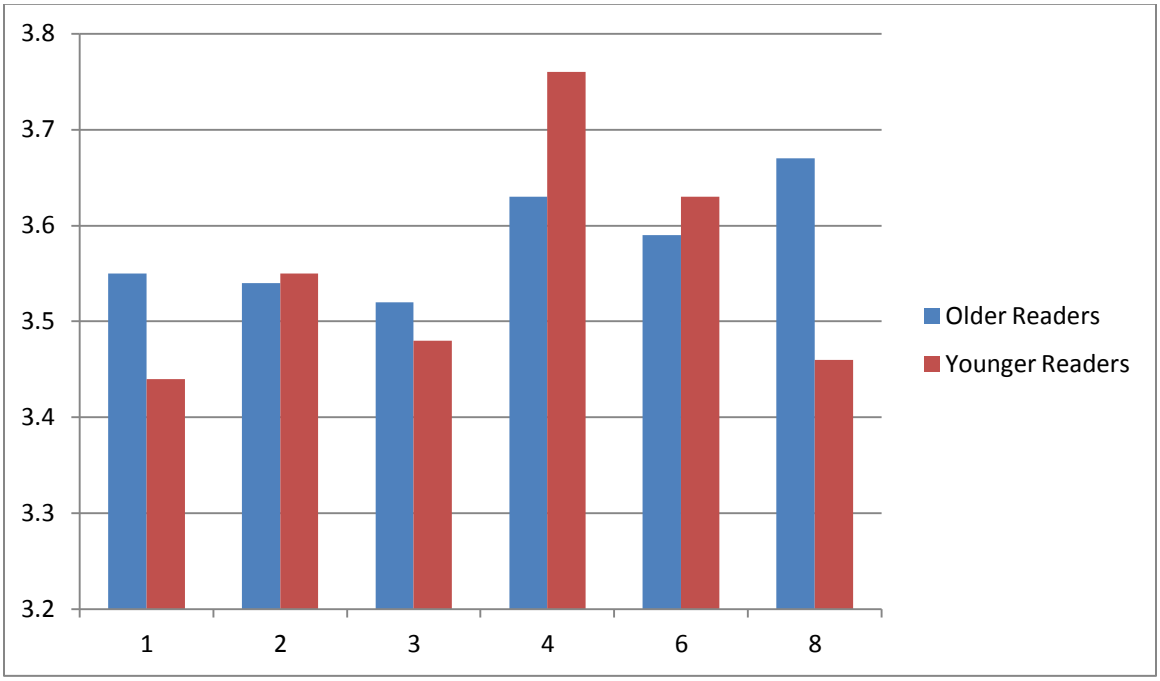

Figure 5: Ratings from the older and younger groups on books with various degrees of visual stimulation level

Age Matching. To match the age groups from the minimal reading age suggested by publishers, only ratings of children who were under 7 years old children were included for this research question. These 106 children were divided into three groups accordingly. For each age group (young vs. middle vs. old), the sample size is, respectively, 24 (m= 1.84), 28 (m=3.62) and 54 (m=5.00).

A 3*3 ANOVA was conducted, with suggested age groups from the publishers as the between-book variable and the ratings from the three age groups as the within-book dependent variable. The data analyses showed no main effect of age groups of readers ($F(2,132)=3.10$, n.s.), no main effect of age group from the minimal suggested($F(1,66)=9185.65$, n.s.), and no

interaction between the two variables(F(4,132)=0.85, n.s.). Therefore, the suggested minimal age did not match with the age group of children's preferences.

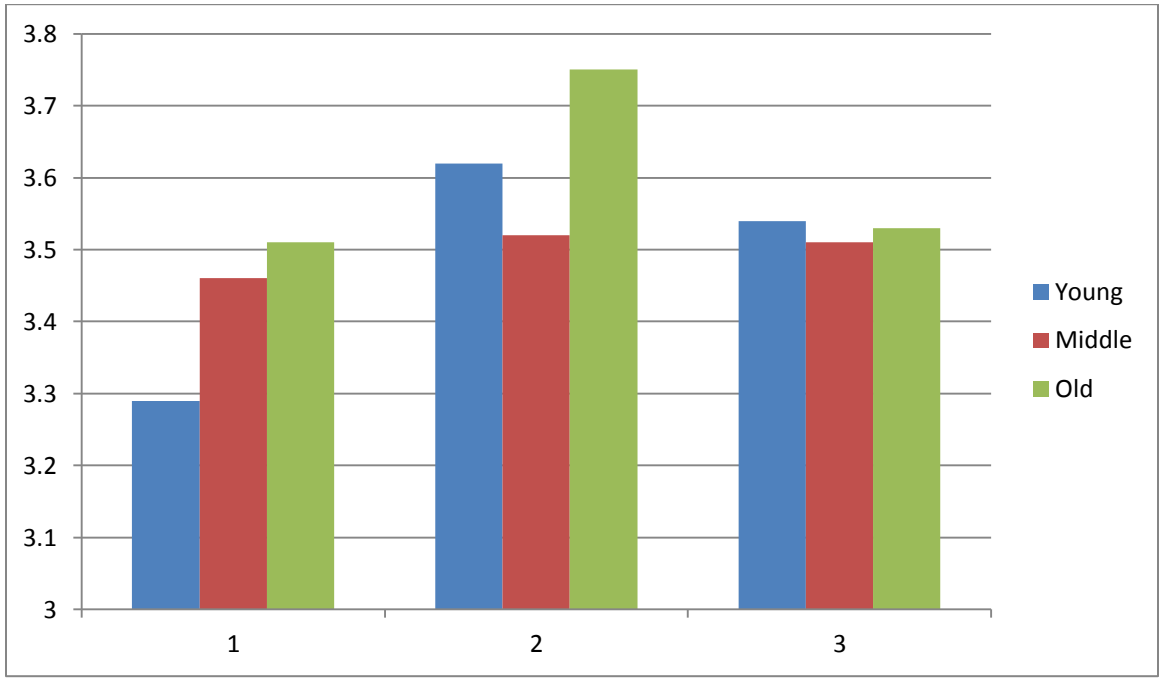

Figure 6: Average rating scores from the young, middle, old groups on books across the range of the minimal suggested reading age

Parental Influences. The number of picture books that parents know and the co-reading frequency were used in a multiple regression analysis to predict parent-reported children's rating scores towards this sample of picture books. The analysis result showed no statistical significance for the number of picture books parents know (F(1,131)=0.45, n.s.), nor the co-reading frequency(F(1,131)=0.85, n.s.). Children's preference scores towards these books were neither predicted by the number of books parents know nor the co-reading frequency (R^2=0.004). In general, parents' knowledge about picture books and the co-reading frequency did not have an effect on children's overall preferences for picture books.

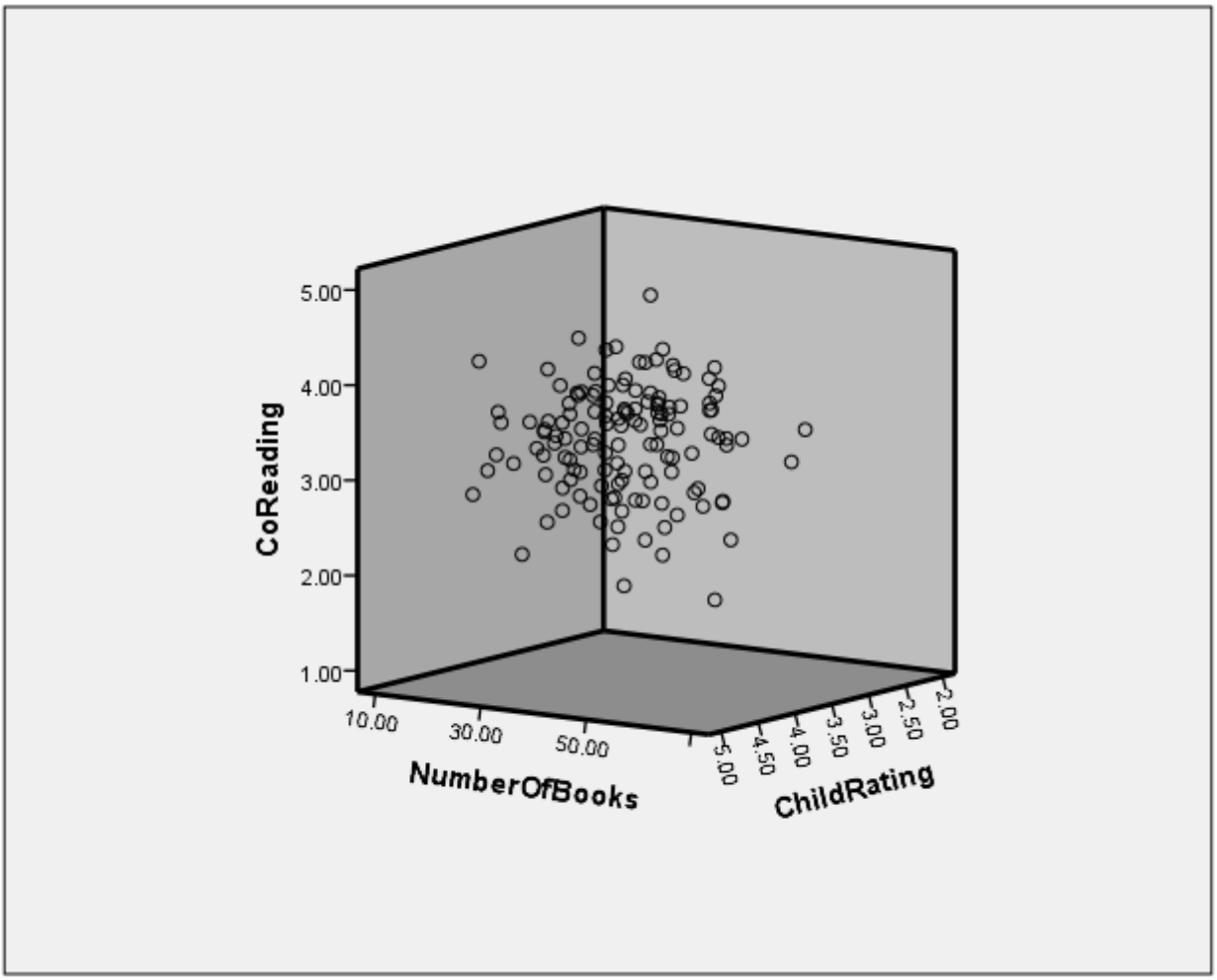

Figure 7: Three-dimensional regression graph: the number of books parents know and co-reading frequency as the predictor, and children's rating scores as the dependent varialbe

Discussion

This study examined children's preferences on a set of picture books based on parents' reports. Surprisingly, the results from the survey did not support any of these predictions: (1) Children would prefer picture books whose gender of the major character matches their own; (2) Young children would prefer picture books with more visually stimulating illustrations; (3) Parent’s knowledge of picture books and the joint reading frequency could predict children’s

average rating scores; (4) Children would prefer picture books that suggested minimal reading age matches their own age.

We predicted that children would prefer picture books whose gender of the major character matches their own. This prediction is not supported by the result. Contrary to the prediction, parents-reported children preference on picture books demonstrated equal preferences scores of boys and girls on books with different gender types of the major character. Boys and girls enjoy picture books that contain a female/male/unspecific major character consistently. This finding is not accord with previous studies (Boyatzis & Eades, 1999; Kropp & Halverson, 1983). However, the uneven sample size between books whose major character of different gender type might cause not finding the effect. Among 69 picture books, only 11 of them represent major character as female.

We also predicted that younger children would prefer more visually stimulating picture books than older readers. The prediction was not borne out. Neither children's age nor the illustrations' stimulation level has an influence on children's rating scores. Children whose ages lie below or above 6 consistently showed no preference for picture books with different levels of visually stimulation level. However, the validity of visual stimulation code worth considering. The code depends upon the richness of the illustration and the amount of color. Combining these two codes does not equal to a picture's visual stimulation level, although it is a key component. It is possible these codes do not capture the actual visual stimulation level from children’s perspective. Other factors, such as color brightness, front size, and craziness of the story line, might also contribute to visual stimulation.

Our prediction that children would prefer picture books' suggested minimal reading age match their own was not proved by the study. This prediction focuses on children under 7-year-old, since the minimal suggested reading age from these pictures is below 7. Children from different age group constantly showed no rating preferences for picture books that belong to different suggested reading age groups. It is possible that books' target reading age is not based on who would be the books' most favorable readers, but comes from children's cognitive and reading ability. More likely, publishers simply set a lowest reading age to allure a wider range of market.

Using the number of picture books parents know and their child-parent reading frequency as indicators, we predicted each child's average preferences score for this sample of picture books. The finding does not suggest any relationship between each child's rating score and the numbers of picture books his/her parent know as well as parent-child reading frequency. We extended previous studies have found a positive correlation between teacher's knowledge of reading material and children's reading ability.

However, one significant finding from parents' reports suggested that parents rated girls in general preferring picture books much more than boys. This finding suggests that, at least in parents' perception, girls in general enjoy reading activity more than boys. This finding corroborates earlier study (Merisuo-Storm, 2006); moreover, the large range of the age of participants suggest that not just children, but female readers from 5 months to 18 years old in general prefer reading activity than male readers. Further analysis pointed out that although this group of girls and boys are reported to have same reading ability and same parent-child reading frequency, parents still rated girls enjoy reading picture books more than boys.

There are two factors that should be considered in the study: validity of parents' answers and under-representation of participants. Although the survey reported that parent-child reading frequency is above the average, it did not necessary mean that parents possessed an accurate understanding on their children's preferences. Also, it is possible that these reports from parents were biased depending on parents' beliefs and experiences. If so, this study would be revealing parents' belief on children's preferences for picture book rather than children's actual preferences for their reading material. Further experiments may test the findings of the study by surveying children directly to avoid parents' biases.

For so long, educators, teachers and parents have searched for greater quality and more suitable educational reading material for children. These findings about children's and parent's preferences over picture books might offer insight into reasons behind patterns that emerge, like how different sex parents have different kinds of influence over girls and boys in terms of their preferences. The result of this study could be applied to the school setting. For example, this study can help teachers to choose better books for children to read, taking into consideration of their age, gender or reading ability. Also, public libraries can use this material to organize picture books or serve parents better by recommending picture books for their children. On the other hand, this study has true value for further research. One limitation of this study is that it does not allow researchers to analysis or question why children love certain types of picture books and how parents perceive how much their child likes a book. The follow up study can interview parents and children asking why do they like or dislike some books.

Appendix A

Book title
1. Madeline
2. 1 Zany Zoo
3. Caps For Sale
4. Curious George
5. Goodnight Moon
6. Blueberries For Sal
7. The Little Red Caboose
8. Cat in the Hat
9. Green Eggs and Ham
10. Horton Hears a Who
11. Harold and the Purple Crayon
12. Are You My Mother?
13. Clifford the Big Red Dog
14. Where the Wild Things Are
15. Fox in Socks
16. Corduroy
17. The Monster at the End of This Book
18. Alexander and the Terrible, Horrible, No good, Very Bad Day
19. Hippos Go Berserk
20. Cloudy With a Chance of Meatballs
21. If You Give a Mouse a Cookie
22. Chicka Chicka Boom Boom
23. The Polar Express
24. Shrek!
25. Tuesday
26. The Rainbow Fish
27. Owen
28. Stellaluna
29. Busiest Fire Fighters Ever!
30. The Very Hungry Caterpillar
31. Guess How Much I Love You
32. Love You Forever
33. The Little Mouse, The Red Ripe Strawberry, and The Big Hungry Bear
34. Brown Bear, Brown Bear, What Do You See?
35. The Three Little Wolves and the Big Bad Pig
36. No, David!
37. A Blue's Clues Holiday
38. Olivia
39. Goodnight Gorilla
40. How Do Dinosaurs Say Goodnight?
41. Tell me a season

42. Kitten For a Day
43. Don't Let the Pigeon Drive the Bus
44. Click, Clack, Moo: Cows That Type
45. Finding Nemo
46. Is Your Mama A Llama?
47. Dumbo
48. Dig
49. Thumbelina
50. Ella the Elegant Elephant
51. Fancy Nancy
52. The Hello, Goodbye Window
53. Once Upon a Cool Motorcycle Dude
54. Cars
55. Library Lion
56. Five Little Monkeys Jumping on the Bed
57. Sheep in a Jeep
58. Not a Box
59. JUMP!
60. A Sick Day for Amos McGee
61. Baxter, the Pig Who Wanted to Be Kosher
62. Happy Birthday, Dora!
63. Click, Clack, 1, 2, 3
64. I Love Colors
65. Sloppy Joe
66. Duck! Rabbit!
67. R Robot Saves Lunch
68. The Everything Machine
69. The Lion and The Mouse
70. Look Out, Suzy Goose
71. Horse
72. The House in the Night
73. Purplicious
74. Eating the Alphabet
75. The Kissing Hand
76. Airplanes: Soaring! Diving! Turning!
77. Monday Is One Day
78. I Am Sheriff Woody
79. Numbers
80. Dino-Baseball
81. Maisy Goes to Preschool
82. Ricky and Annie
83. Of Thee I Sing: A Letter to My Daughters
84. Mr. President Goes to School

85. The Tale of Duck
86. Baby Einstein's My First Book of Numbers
87. Alice's Special Room
88. Arthur Writes a Story
89. Barney and Baby Bop Go to School
90. Elmo Loves You
91. Harry and the Dirty Dog
92. I Just Forgot
93. I Spy
94. My Best Friend is Belle
95. Skeleton Meets the Mummy
96. Tale of Tom Kitten
97. Thomas' ABC
98. Where's God When I'm S-scared
99. When Owen's Mom Breathed Fire
100.A Day With Dad

Appendix B

Book Titles
1. Tuesday
2. A Blue's Clues Holiday
3. A Sick Day for Amos McGee
4. Alexander and the Terrible, Horrible, No good, Very Bad Day
5. Are You My Mother?
6. Arthur Writes a Story
7. Baby Einstein's My First Book of Numbers
8. Blueberries For Sal
9. Brown Bear, Brown Bear, What Do You See?
10. Busiest Fire Fighters Ever!
11. Caps For Sale
12. Cars
13. Cat in the Hat
14. Chicka Chicka Boom Boom
15. Click, Clack, 1, 2, 3
16. Click, Clack, Moo: Cows That Type
17. Clifford the Big Red Dog
18. Cloudy With a Chance of Meatballs
19. Corduroy
20. Curious George
21. Don't Let the Pigeon Drive the Bus
22. Duck! Rabbit!
23. Dumbo
24. Eating the Alphabet
25. Fancy Nancy
26. Finding Nemo
27. Five Little Monkeys Jumping on the Bed
28. Fox in Socks
29. Goodnight Gorilla
30. Goodnight Moon
31. Green Eggs and Ham
32. Guess How Much I Love You
33. Happy Birthday, Dora!
34. Harold and the Purple Crayon
35. Harry and the Dirty Dog
36. Hippos Go Berserk
37. Horton Hears a Who
38. How Do Dinosaurs Say Goodnight?
39. I Just Forgot
40. I Love Colors
41. I Spy

42. If You Give a Mouse a Cookie
43. Is Your Mama A Llama?
44. Library Lion
45. Love You Forever
46. Madeline
47. Maisy Goes to Preschool
48. No, David!
49. Not a Box
50. Of Thee I Sing: A Letter to My Daughters
51. Olivia
52. Owen
53. Purplicious
54. Sheep in a Jeep
55. Shrek!
56. Stellaluna
57. Tale of Tom Kitten
58. The Hello, Goodbye Window
59. The Kissing Hand
60. The Lion and The Mouse
61. The Little Mouse, The Red Ripe Strawberry, and The Big Hungry Bear
62. The Little Red Caboose
63. The Monster at the End of This Book
64. The Polar Express
65. The Rainbow Fish
66. The Three Little Wolves and the Big Bad Pig
67. The Very Hungry Caterpillar
68. Thumbelina
69. Where the Wild Things Are

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